Meeting Summary:

Bay TMDL State Advisory Group

Wastewater Sector Workgroup

July 6, 2010, 1 – 4:00 PM, DEQ Piedmont Regional Office

1. Members and others present (see attached sign-up sheet).

2. Workgroup members were provided with:
   - The draft agenda.
   - Presentation slides on "*July 1 Allocations by State and River Basin*".
   - Tables of "*VA Basin Loads – Nitrogen and Phosphorus (Million Pounds/Year)*".
   - Presentation slides on "*Sector Overview and Review of 'Strawman' Management Scenarios*" will be provided to members and posted on DEQ TMDL website shortly after this meeting.
   - Presentation slides on "*Options for Addressing Growth in Loads*".
   - Chesapeake Bay Program's 6/14/10 paper on "*Scenario Purpose and Description of E3 (Everything, Everywhere by Everyone)*".
   - 7/1/10 letter from Shawn M. Garvin/EPA Region 3 Administrator to Doug Domenech/VA Secretary of Natural Resources, transmitting Bay TMDL Nitrogen and Phosphorus Draft Allocations by Basin and Jurisdiction, and Temporary Reserve by Jurisdiction.

3. Following introductions, the first agenda item was an overview of the charge to the Workgroup, the meeting process and expected outcomes. In addition to the Wastewater Sector Workgroup (WSW), other workgroups are meeting on the Agriculture, Urban and Onsite/Septic nutrient loads and how to address them in Virginia's Watershed Implementation Plan (WIP). A Steering Committee will be formed with members from all Sector Workgroups to formulate "big picture" recommendations for consideration by the larger State Advisory Group (SAG), as well as exchange information on each other's issues and responsibilities. **The next meeting of the WSW is 7/19/10, from 1-4 PM at DEQ's Piedmont Regional Office**. The next SAG meeting will be on August 24, 2010.

   The scope and status of Virginia's wastewater loading as an element of the TMDL and WIP were summarized:
   - 125 "significant dischargers" received nutrient waste load allocations (WLAs) in the Water Quality Management Planning Regulation and the Chesapeake Bay Watershed Nutrient Discharge General Permit in 2005-06. These are "cap" loads that must be maintained into the future; the compliance period for these limits starts in calendar year 2011. The WLAs resulted from a combination of full design flow and stringent effluent nutrient concentrations, ranging from state-of-the-art treatment (TN = 3 mg/l; TP = 0.3 mg/l or lower) to enhanced nutrient removal (TN = 5-6 mg/l; TP = 0.5 mg/l).
   - "Non-significant" dischargers (generally sized from 1,000 to 500,000 gpd) are required by law and regulation to maintain their "Permitted Design Capacity" (PDC), defined as the load associated with full design flow (as of July 2005) and assumed concentrations of 18.7 mg/l nitrogen and 2.5 mg/l phosphorus. No immediate nutrient control is required at these dischargers. If an expansion is proposed then there are minimum treatment requirements that must be met as well as maintaining the PDC under the expansion.
   - Combined Sewer Overflows (CSO) aren't currently simulated in the Bay model as discrete point source discharges. For Virginia this applies to Richmond, Lynchburg and Alexandria. Loads are simulated but are identified and associated with urban runoff in the model results. The general assumption for future CSO control is full implementation of each locality's Long-Term Control Plan.

4. The next agenda item focused on EPA's 7/1/10 draft TMDL nutrient allocations for Virginia's Bay basins. Notable increases/decreases were identified by comparing the original Tributary

Strategy allocations, the Nov. 2009 target loads and the 7/1/10 draft allocation figures. Of particular note were the significant reductions needed (beyond those contributing to main Bay dissolved oxygen restoration) to attain the James basin's numeric chlorophyll water quality criteria. All 3 scenarios include Virginia's point sources discharging at their regulatory WLAs or PDCs. A refined estimate of the PDC for one class of discharger (non-significant industrial) is still being developed, with assistance from EPA's contractor (Tetratech).

EPA's use of a 5% "Temporary Reserve" was also explained, which basically requires States to develop their WIPs to meet even lower basin loadings, to cover the possibility of reduced allocations resulting from next year's planned modifications to the EPA Watershed Model (WSM). This reserve is not assigned to any particular river basin or source sector and is expressed in "delivered" loads (reaching tidal waters of the Bay and tributaries as simulated by the WSM). Virginia will need further EPA guidance on how to assess the reserve and identify the location and source sectors that might be affected. Another factor needing resolution with EPA is how to interpret and compare different model run results that have changing land use conditions/assumptions.

Discussion on the agenda item:

- Comment: *Localized water quality standards (i.e., chlorophyll) don't seem to apply to the larger main-Bay D.O. issue, while the TMDL is directed at compliance with the D.O. standards. Chlorophyll criteria attainment should not be an element of the same TMDL.* Response: The tidal James is part of the Bay; the TMDL must show attainment with all applicable standards. The tidal James was one of the impaired waters included for TMDL development under the court-ordered Consent Decree that Virginia has been working on for over ten years.
- Question: *Do other states have chlorophyll standards with model results showing non-attainment?* Response: The District of Columbia has chlorophyll standards, which are slightly higher than Virginia's, for their portion of the Potomac. The latest model results appear to show 30-40% non-attainment in DC's waters under Tributary Strategy loads, but EPA doesn't seem to be pursuing this chlorophyll issue as they are for the James. EPA will be asked for further explanation of this situation.
- Question: *How do the basin allocations break down between the "Load Allocation" (LA = nonpoint sources) and "Waste Load Allocation" (WLA = point sources such as municipal and industrial wastewater discharges)?* Response: members were directed to the handout tables of "VA Basin Loads – Nitrogen and Phosphorus (Million Pounds/Year)", which show annual loads from the various source sectors.

5. The presentation on "*Strawman Management Scenarios"* followed, with a review of:
   - Virginia's Enhanced Program Implementation Level (EPIL) scenario and model results, showing limited additional nutrient reduction from nonpoint sources even with significantly increased application of priority BMP practices.
   - A description of what the E3 scenario looks like for each source sector.
   - Scoping scenarios for 2 progressively more stringent levels of BMP implementation (above EPIL but below E3).

   Each scenario kept the same assumed treatment levels (current WLAs and PDCs) for the point sources.
   - Comment: *Additional point source reductions shouldn't be off the table and applying limit-of-technology (LOT) should be an option to make up the load reduction shortfall. This should be examined in terms of additional reductions, feasibility and cost.* Response: The DEQ Director has stated to the SAG that, at this stage, the point sources have "stepped up" and will be achieving major reductions at significant cost. The WIP approach being taken is to see where the other source sectors can get in terms of equivalent level of effort before proposing any further point source treatment requirements. Staff will develop estimates for the WSW showing reductions from use of

LOT at the significant point sources, in comparison to the reported 2009 loads and the current WLAs. Another member commented that in order to put such an analysis into perspective, you'd need to develop the same information for all other source sectors to make an informed decision about which options to use to close the gap. You can't have the point sources reduce an additional 10 million pounds of nitrogen while other source sectors do nothing.

- Comment: *VAMWA requests that their 3/12/10 memo on Virginia's WIP approach for the source sectors be circulated to the WSW.* Response: VAMWA's 3/12/10 memo is attached.
- Question: *Are the point sources getting credit for reductions achieved prior to 2009? Can the progress already made be included in the WIP, as a factor in getting to the Stage 1 targets by 2017?* Response: This could be useful in achieving 50% of the ultimate TMDL implementation goal by 2017. It is important to define the baseline you're starting from and Virginia will look into this possibility through discussions with EPA.
- Question: *What about trading as an option to address the load reduction gap?* Response: The Nutrient Credit Exchange already exists as a means for point sources to achieve compliance with the WLAs and offsets are required for any new loads. Point to nonpoint trading is an option that needs further development and could play an important role in accommodating future growth while maintaining the caps.

Point source owners present were asked for their opinion on the future rate of new onsite/septic installations vs. central sewer hookups under the TMDL.

- Comment: *A Shenandoah Valley owner said they are seeing a push to go to onsite treatment, septics and decentralized systems due to load limitations, costs for sewer line extensions/connection fees and politics. This works against most localities' Comprehensive Plans that promote denser urban development where central sewer is located. Collection and treatment is preferred to provide nutrient reduction much better than onsite/septic systems*.
- Comment: *Wastewater reductions are more effective at controlling eutrophication due to the form of nitrogen discharged, the location of many large facilities on tidal waters, and the degree and reliability of treatment achieved*.

6. The next discussion was on options to address growth. While the current WLAs and PDCs have some built-in growth allowances (i.e., based on total design flow and assumed concentrations that are for most dischargers less stringent than limit of technology), there are some 'loopholes' in the existing regulations that should be addressed. For example, 2010 legislation did require offsets for new municipal facilities greater than 1,000 gpd, but doesn't address existing plants with a design flow less than 40,000 gpd that are expanding but will still be under 40,000 gpd. Also not addressed are smaller, new systems under 1,000 gpd and industrial plants below 40,000 gpd. The onsite/septic source category has no "cap"; perhaps one should be explored.
    - Comment: *A viable offset program needs to be established in advance of future development relying on onsite or single family home treatment systems*.
    - Comment: *There is a growing conflict between economic development interests and limitations of WLAs. It's not in anyone's interest to push new development onto onsite/septic systems instead of high-performance treatment plants*.
    - Question: *Since WLAs and PDCs are based on total design flow, what is the unused capacity currently available at the treatment plants for future growth?* Response: Staff estimated that the municipal plants were using about 65% of their design flow capacity. Subsequent to the meeting, actual flows vs. design flows for the municipal significant facilities were examined. Actual flows averaged 66% of design flow in 2006, 63% in 2007 and 65% in 2008. These values were calculated by taking the combined flow of all the significant municipal dischargers and comparing it to the total design flow. It does not incorporate the few expansions with footnoted allocations, but they are rather small and

wouldn't impact the overall value. A couple of plants with large industrial flows were excluded from the analysis because they are not typical of most POTWs.

Subsequent to the meeting, using the difference between total design flow (431.6 MGD) and 2008 actual flow (280.6 MGD), a rough estimate was made of how many additional single family homes could be served. Assuming 300 gpd per connection, the 151 MGD in available capacity could serve about 503,000 homes. It must be recognized that some facilities are nearing design capacity and could only add a limited number of new connections, and that not all new development will be proposed within treatment plant service areas.

DEQ staff will develop estimates of loads from existing onsite and single family home systems and share them with the WSW.

7. Discussions followed on two issues not specifically on the agenda:
   - *DEQ is asked to chart a course forward on resolving the James basin chlorophyll issue and make this process part of the WIP. Consideration should be given to revising the standards and to incorporate adaptive management in the attainment strategy.*
   - *Where is promotion of new technologies for both point and nonpoint source nutrient controls? There should be an element of the WIP that explores non-traditional BMPs that may not be tied to a specific source sector (e.g., oyster rafts, algal turf farming). The criteria for certifying new BMPs as part of the list of acceptable control practices needs to be distributed.*

8. Planning future actions and meetings:
   - The expected outcome after the next (and final) WSW meeting is to have draft recommendations for the wastewater sector prior to the 8/24/10 SAG meeting.
   - DEQ will provide an outline of what the WLA section of the WIP will look like.
   - Ideas given today and in the next meeting need to be viewed against EPA's WIP evaluation guidance (4/2/10) and the 8 required WIP elements to see how they fit and what gaps remain.
   - Question: *When do DCR and DEQ expect to have sub-watershed allocations?* Response: In the next phase of the WIP, due late 2011.

Attachments:
- 7/7/10 Wastewater Sector Workgroup meeting attendance list.
- VAMWA's 3/12/10 memo on Virginia's WIP approach for the source sectors.